

Title (en)
RECONSTRUCTION OF THE CURRENT FLOW IN A VESSEL SYSTEM

Title (de)
REKONSTRUKTION VON STROMFLUSS IN EINEM GEFÄSSESYSTEM

Title (fr)
RECONSTITUTION DE DEBIT DANS UN SYSTEME VASCULAIRE

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Abstract (en)
[origin: WO2005004038A1] The invention relates to a method of reconstructing the current flow, or the bolus arrival times, in a vessel system (6). For the sections (i) of the vessel tree (6), bolus arrival times (mi) are measured, for example in connection with an injection of contrast medium. Based on this measured data, linear programming is then used to calculate model bolus arrival times (ti), which, on the one hand, through minimization of the function $E = \sum ||m_i - t_i||$, are as close as possible to the measured data, and, on the other, by adherence to the boundary condition $\Delta t_i = t_i - t_{p(i)} \geq 0$, ensure the monotony of the propagation, wherein p(i) is the index of the vessel section in front of vessel section (i). Preferably, as smooth as possible a progression is compelled by means of an additional minimization of $E_m = \sum ||t_i''||$

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